Aeronautical Systems Center,
Acquisition Environmental Management

Stakeholder SENTINEL

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Scientists decontaminate a soil sampler at Site 6 during the first round of shallow soil sampling at AFP 42.

Engineers investigate soil at AFP 42

Air Force Plant 42 in Palmdale, Calif., kicked off an environmental investigation in November at several sites targeted for cleanup under the plant's Installation Restoration Program (IRP).

According to George Warner, remedial project manager for Air Force Plant 42, the investigation began with collecting shallow soil samples at a group of sites, called operable units. This first round of sampling was conducted at operable units 1 and 2, which contain petroleum products from fuel run-up and fire training areas. Soil sampling will continue at three other operable units over the next few years.

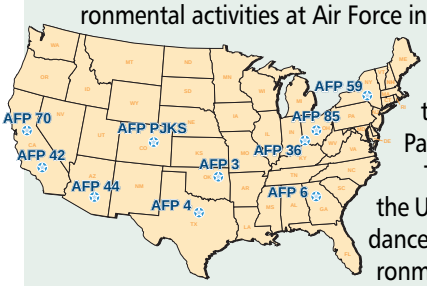
Warner said each of the plant's 27 IRP sites, contaminated with substances such as heavy metals, paints and petroleum products, were combined into five operable units, in an effort to streamline the cleanup process. Sites with similar contamination, like chemical cleaning solvents, were grouped into the same operable unit. At operable unit 3, the investigation will study former hazardous waste disposal sites, and at operable unit 4, contamination consists of sites where fuel was spilled into the soil. At operable unit 5, suspected contamination was caused by wastewater run off.

Investigating the shallow soil at operable units 1 and 2 signals the beginning of a significant step in the cleanup program at Air Force Plant 42, Warner said. It launches a comprehensive study, called the Remedial Investigation (RI), which is a component of the Comprehensive Environmental Response, Compensation and Liability Act, established by Congress in 1981 to clean up

(See Investigation, page 6)

In this issue

The *Stakeholder Sentinel* is published to provide timely information to community members on environmental activities at Air Force industrial plants.



These plants, called Government-Owned, Contractor-Operated (GOCO) facilities, are owned and managed by the Aeronautical Systems Center, Acquisition Environmental Management at Wright-Patterson Air Force Base in Ohio.

The Air Force currently owns 10 GOCOs (see map left), located across the United States. Six of these 10 GOCOs are being sold or leased in accordance with Department of Defense policy. At each of these facilities, environmental protection projects and cleanup programs are taking place.

Stakeholder SENTINEL

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This Air Force newsletter is an authorized publication of the Aeronautical Systems Center, Acquisition Environmental Management Directorate, Wright-Patterson Air Force Base, Ohio. The intent of this publication is to report on environmental activities and programs taking place at 10 industrial plants, located across the United States, which are owned by the Aeronautical Systems Center. Contents of the *Stakeholder Sentinel* are not necessarily the official views of, or endorsed by, the U.S. Government, the Department of Defense, or the Air Force. *Stakeholder Sentinel* is published under contract with IT Corporation, a private firm in no way connected with the U.S. Air Force. Editorial content is edited, prepared and provided by the Public Affairs Office, Environmental Division of the Aeronautical Systems Center. For more information, call 1 (800) 982-7248, ext. 301, 322, or 346; or visit us on the ASC/EM Home Page at: http://www.ascem.wpafb.af.mil.

Protecting air quality

Palmdale plant to build clean-burning propane facility

Plans are in the works to construct an environmentally-friendly, propane, firefighter training facility at Air Force Plant 42 in Palmdale, Calif., ending the practice of burning jet fuel during routine drills. When ignited, liquefied propane does not produce a lingering, dark cloud of smoke, which was a common sight over the plant when jet fuel was burned at the former training pit.

"I've been trying for years to get the Air Force to stop burning jet fuel because of the air emissions," said Palmdale resident Joseph Yore, who is a member of the Air Force Plant 42 Environmental Restoration Advisory Board. "This new facility will be a great relief to the Palmdale people."

The long-awaited construction project was delayed for several months while the Air Force rectified certain characteristics concerning the proposed facility that were different from the standard Air Force design. "We've made the modifications and can now go forward with the construction," said Frank Ivancic, Air Force Plant 42 Integrated Product Team leader with the Aeronautical Systems Center, Acquisition Environmental Management.

Ivancic said the modifications will not affect the performance of the propane facility. One of the changes will add a plastic liner beneath the concrete burn pit, which drains the water used to extinguish the flames during training sessions. Another change deals with converting the facility from a fully automated, computer op-

(See Propane, page 7)

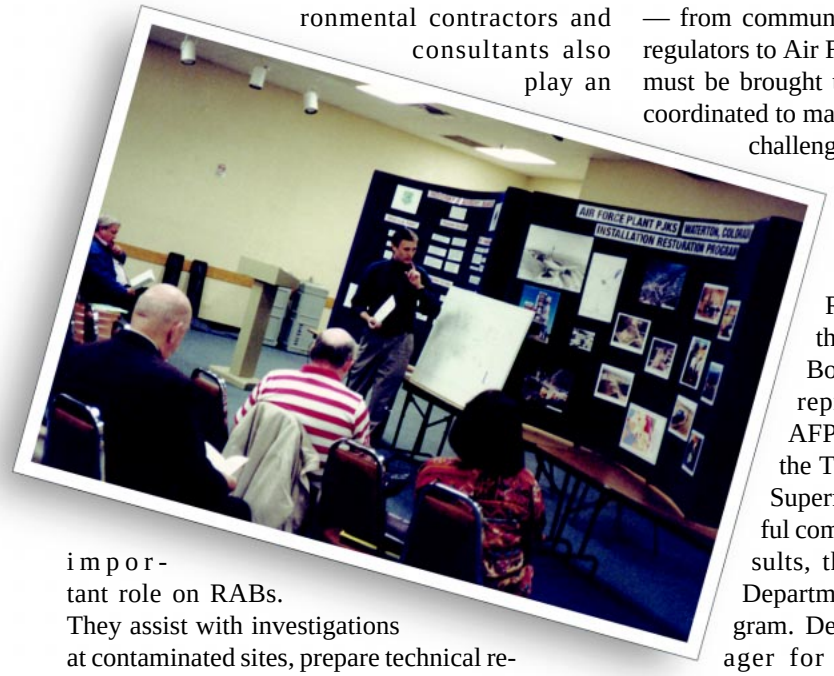
Col. Ronald E. Channell

Col. Ronald E. Channell is Director of Acquisition Environmental Management for the Aeronautical Systems Center (ASC) at Wright-Patterson Air Force Base, Ohio. The colonel is responsible for the development of cost effective environmental programs for aeronautical weapon systems for ASC. His other responsibilities include implementing pollution prevention policies into weapon system design, and serving as the Secretary of the Air Force's executive agent for all Air Force industrial plants. A native of Sandersville, Ga., he earned a bachelor's degree in chemistry and a doctorate in analytical chemistry, both from the University of Georgia. He entered active duty in the Air Force in 1971, and was assigned to the Air Force Rocket Propulsion Lab at Edwards AFB, Calif. Prior to his present assignment, Col. Channell was commander of Wright Laboratory at Wright-Patterson AFB, and director of the lab's operations directorate.

RABs from coast to coast

How difficult is it to communicate environmental cleanup issues at 10 Air Force Plants (AFPs) located across the United States — from New York to California? Ask any member of the Air Force cleanup team in the Aeronautical Systems Center's Acquisition Environmental Management (ASC/EM) office at Wright-Patterson Air Force Base in Ohio. Their answers will differ from person to person, but one success they all will agree on is the formation of Restoration Advisory Boards (RABs) in communities near Air Force plants where cleanup activities are being conducted. These forums allow community members to get involved in the cleanup, by providing feedback to the Air Force and participating in the decision-making process for environmental cleanup projects.

RAB members come to the table with different interests, concerns and backgrounds. For instance, some participants are business and homeowners, while other members belong to civic organizations, environmental groups, or other organizations interested in cleanup activities. Each RAB has state and federal regulators, along with Air Force or Department of Defense representation. Environmental contractors and consultants also play an important role on RABs. They assist with investigations at contaminated sites, prepare technical reports, provide historical information about plants, and conduct research on current technologies for cleaning up sites.



Andrew Jeffers, left, Remedial Project Manager, conducts a RAB meeting at AFP PJKS in Denver, Colo.

The management of a RAB is a shared responsibility assumed by an Air Force representative and an elected community co-chair. Members of this forum develop a charter that spells out the board's operating procedures and bylaws. RAB members have an active voice in developing agenda items for meetings and training requirements to get them up-to-speed on technical aspects of cleanup and site-specific contamination.

The Acquisition Environmental Management Directorate currently manages 10 Air Force plants, called government-owned, contractor-operated (GOCO) facilities. Community members living near four GOCO facilities have voted to form RABs and meet on a regular basis. These RABs are located at AFP 4 in Fort Worth, Texas; AFP 42 in Palmdale, Calif.; AFP 44 in Tucson, Ariz.; and AFP PJKS in Denver, Colo. In communities where the public has decided not to form RABs, Air Force environmental and public affairs staffs hold public meetings, informal workshops and discussions to keep residents apprised of cleanup progress or to solicit public comment on an environmental cleanup activity. Some communities choose to meet quarterly, while others meet more infrequently.

Holding RAB meetings in towns across the United States is no easy feat. All interested parties — from community members and environmental regulators to Air Force agencies and contractors — must be brought together and a myriad of details coordinated to make meetings successful. Another challenge is keeping news media informed about cleanup issues, so that accurate, timely information is published.

One of the most successful RABs established by ASC/EM is the Unified Community Advisory Board in Tucson, Ariz. The board represents all agencies, including AFP 44, responsible for cleaning up the Tucson International Airport Area Superfund site. Because of its successful community outreach methods and results, the UCAB was selected by the Department of Defense as a model program. Dennis Scott, remedial project manager for AFP 44, and the Air Force representative for the UCAB, said, "One of the challenges of managing a RAB long distance is not being present in the local community on a daily basis." He added that teams from ASC/EM face

(See RABs, page 7)

Going for the Green

AFP 44 seeks Earth-friendly replacements for hazardous chemicals

Organic chemical solvents have always been considered the most ideal substances for an array of industrial purposes — from cleaning oils and greases from metal parts to stripping paint from surfaces. It was found, however, that these chemicals can be hazardous to human health and the environment. In the wake of that knowledge, a nationwide, if not international quest has emerged to find earth-friendly replacements for chemicals and other hazardous materials.

Hector Mesa applies the new paint formula at the Raytheon powder paint facility.

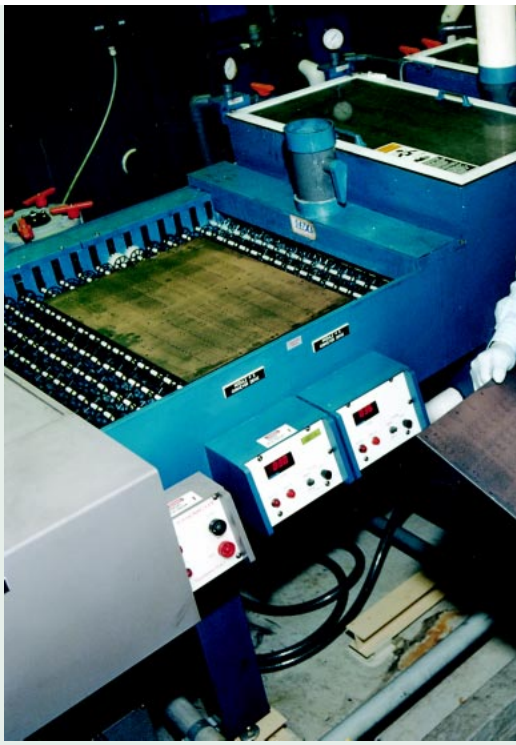
At Air Force Plant 44 in Tucson, Ariz., a pollution prevention team was formed in the late 1980s to tackle this worthwhile challenge. Engineers from the Aeronautical Systems Center, Acquisition Environmental Management and Raytheon Systems Co., which operates AFP 44, have been working together to uncover new technologies and methods that will replace chemicals used at the plant's missile manufacturing facilities.

Currently headed up by ASC's 1Lt. Saulo Cepeda and Paul Fecsik of Raytheon, a few of the team's early successes were the elimination of two hazardous materials: 1,1,1- trichloroethane and formaldehyde.

"Plant 44 has had an aggressive program since its inception," said Cepeda. "For instance, a few years ago we were able to eliminate ozone-depleting substances from all of our processes and PCB (polychlorinated biphenyl) transformers."

In conducting its program, the team follows a systematic approach designed by the Environmental Protection Agency to replace or eliminate chemicals currently used at the plant. Under the plan, called the EPA pyramid, the first priority is to reduce hazardous chemical use at the source. This means the existing production line may require a new technology, a change to the manufacturing process, or an alternative substance to prevent pollution at the source while meeting product performance standards. If this can't be accomplished, the next choice is to recycle, reuse or reclaim the chemicals. Third on the hierarchy is the option to treat the waste chemicals before discharging, in accordance with regulatory limits. Last on the pyramid is disposing of the chemical at a permitted facility.

"Our first priority is to completely eliminate the hazardous portion of the industrial process," said Fecsik. "If this can't be done, we next attempt to isolate and recycle the material."



Using the EPA pyramid, the AFP 44 team has adopted its own strategic plan. Concentrating on four key areas — hazardous material elimination, chemical recycling, hazardous waste reduction, and water recycling activities — team members have achieved a dramatic drop in chemical use across the installation.

One of the projects responsible for that victory is the powder paint process. After researching ways to replace solvent-based paints, which emit volatile organic compounds (VOCs) when applied to surfaces, the team eliminated the material and replaced it with a powder paint composed of an epoxy or a polyurethane polymer

combined with the desired pigment color.

"With traditional paint methods, you aim at a part and 80 percent can miss the surface and disperse into the air," Fecsik said. "The powder paint method puts a static charge on the part and the powder sticks to the component.

Senior Process Engineer Mike Covel (left) and Process Technician Rich Morales inspect a directly metallized printed wiring board. The process uses graphite for metallization which has eliminated formaldehyde and other chemicals.

The part is then heated and the powder melts to form a smooth surface. No volatile solvent is required to ensure a complete coating and provide necessary corrosion control."

The powder paint project, coupled with other pollution prevention activities, has helped the plant eliminate 15,000 pounds of VOCs.

Another promising venture, launched in 1994, has reduced hazardous waste generation by using water-based technology to degrease components. The environmentally-friendly aqueous systems, which operate similar to a large dishwasher, have eliminated 1,1,1-trichloroethane and freon, formerly used in vapor degreasing operations to remove oils, greases and fingerprints from hardware.

In chemical recycling and reuse, several effective technologies have improved the way metals are removed from acid solutions in plating operations. According to Fecsik, strong acids are needed to remove oxides on metallic hardware. As the metals dissolve into the acid, the solutions become less active and must be disposed of with the resulting waste treated. Innovative acid purifiers were recently installed to filter out different types of metals, such as nickel, aluminum and copper, allowing the solutions to be reused indefinitely. Based on AFP 44's traditional consumption of nitric acid, these units are projected to recycle about 17,000 gallons of acid per year, according to Fecsik.

One of the newest projects on the horizon is a technology invented at the Mendeleyev University of Chemical Technology in Russia. Called electroflotation, the process causes gas bubbles to rise and trap trace metals and organic materials, which can then be separated from hard-to-treat wastewater discharges. Project engineers recently returned from a trip to Russia, with plans to build and test at AFP 44 the United States' first electroflotation unit. If successful, Cepeda said the technology will be transferred to other Air Force facilities.

With more than 10 years of demonstrated success, the pollution prevention team continues to search for new opportunities to reduce hazardous chemical use at AFP 44. "We know we can't eliminate everything that is hazardous, but we see big opportunities in the future to recycle existing chemicals and reuse wastewater. This is where we will achieve the greatest results in future projects," Fecsik said.

—Larine Barr,
ASC Public Affairs

Community Activities CALENDAR

Air Force Plant 44, Tucson, Ariz.
- Unified Community Advisory Board Meeting, 6:30 p.m., April 15, May 20, and June 17, 1998
- Environmental Fairs at Apollo & Challenger Middle School, April 17, 1998
- Earth Day Festival and Parade, Tucson Children's Museum, 9:00 a.m.-1:00 p.m., April 18, 1998

Air Force Plant PJKS, Waterton, Colo.
- Restoration Advisory Board Meeting, 6:30 p.m., April 14, 1998

Air Force Plant 42, Palmdale, Calif.
- Salute to Youth at AFP 42, May 1, 1998
- Environmental Restoration Advisory Board Training Session & Meeting, 6:30 p.m., May 5 & 6, 1998

Air Force Plant 4, Fort Worth, Texas
- Carswell/Plant 4 Restoration Advisory Board Meeting, 7:00 p.m., May 7, 1998
- Carswell NAS Air Show, May 30 & 31, 1998

Editors Note: The above dates are subject to change. For the latest updates, look for notices on meetings and other events in your local newspaper or through direct mailings to your home. For more information, call 1 (800) 982-7248, ext. 301.

Senior Plater Joe Bojorquey activates a Nitric Acid Purification Unit which removes copper, tin and lead at the Raytheon Printed Wiring Board Shop.

Air Force transfers AFP 85 to private industry

Aeronautical Systems Center Environmental Management officials here successfully transferred the title of the industrial portion of Air Force Plant 85 in Columbus, Ohio, culminating a joint General Service Administration/Air Force effort to dispose of this former aircraft facility. Lt. Gen. Kenneth E. Eickmann, commander of Aeronautical Systems Center, signed the transfer document for Air Force Plant 85 over to 4300 East Fifth Avenue Limited Liability Company of Columbus.

The property sold for $15.3 million to the Limited Liability Company. Bids to sell the property opened in December 1996. A total of 11 bids was received. The Limited Liability Company already has negotiated several tenants and developed facility improvement plans to modernize the plant.

Air Force Plant 85 is a former government-owned, contractor-operated, aircraft manufacturing facility consisting of approximately 3.3 million square feet of building space spanning five major buildings on 179 acres. The General Service Administration previously disposed of machinery and equipment at the plant for $2.7 million.

According to Steve Drake, integrated product team leader for the divestiture plants managed through ASC's Acquisition Environmental Management Directorate, the title transfer negotiation process was allowed by special legislation, Public Law 100-456. Sale of the plant will result in reuse of the vacant facility, local employment opportunities and placement of the property on local tax rolls. Projections predict substantial revitalization over the next six to 12 months.

—Andrea Attaway-Young, ASC Public Affairs

Investigation

(Continued from page 1)

hazardous waste disposal sites across the United States. The RI at Air Force Plant 42, conducted with oversight by the California Environmental Protection Agency, Department of Toxic Substances Control, will include shallow and deep soil samples and a method called presumptive remedies.

"Presumptive remedies help to expedite the cleanup process. These remedies are technologies proven to be successful at other hazardous waste sites around the country," Warner explained. "When a particular technology is successful at other sites with similar contamination, you can predict that this method will be effective at your site."

As an example, Warner said that bioventing works well in removing petroleum from soil, the primary contamination at operable units 1 and 2. "You basically inject air into the soil, which stimulates the microbes living in the soil — thereby increasing their population. These 'bugs' flourish in the soil and the petroleum is like a food to them. They break down the contamination into carbon dioxide and water." Warner said, because of its track record at other sites, bioventing is a cleanup option at Air Force Plant 42.

The shallow soil samples collected during the RI are being analyzed at two laboratories: a mobile lab set up on site, and a fixed facility in Redding, Calif. The labs are testing for the presence of semi-volatile and metal compounds. Once the shallow soil sampling is completed, Warner said the RI will proceed with a deep soil investigation to evaluate any threat to groundwater.

All the data gathered from the RI will be used for the next step of the cleanup program, known as the Feasibility Study. During this phase of the IRP, the data collected will be used to develop and select cleanup alternatives for each operable unit.

— Larine Barr, ASC Public Affairs

Community members observe the split spoon sampler during their tour of Site 6, which demonstrates how soil samples are taken using a direct push rig.

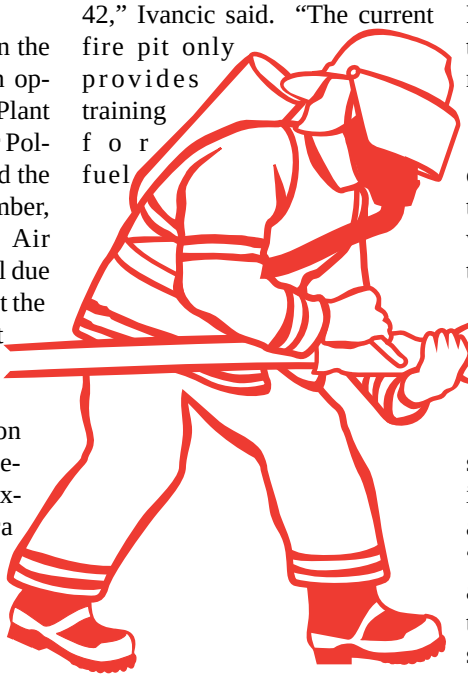
A scientist explains soil differences based on color and texture to AFP 42 Environmental Restoration Advisory Board members during a tour of the plant.

Propane

(Continued from page 2)

eration to a manually controlled system.

Getting a "green light" on the propane design comes at an opportune time for Air Force Plant 42. The Antelope Valley Air Pollution Control District served the plant with a notice in September, 1997, requesting that the Air Force switch to a cleaner fuel due to the district's concern about the "adverse effect" burning jet fuel has on local air quality. Ivancic said the Air Force planned to have construction well under way by now, but negotiations "took longer than expected." He said the extra time was spent to ensure the facility is in accordance with Air Force environmental and operational requirements. Environmental regulators from the Lahontan Water Quality Control Board have signed off on the propane design.



"This is a well-planned, advanced design that has been tailored for use at Air Force Plant 42," Ivancic said. "The current fire pit only provides training for fuel spill scenarios, while the new design covers engine fires, interior (aircraft cockpit and cabin) fires, wheel brake fires, and running fuel fires," Ivancic explained.

Located near Site 5 at Air Force Plant 42, the facility is estimated to take about eight months to complete. According to Ivancic, the design for the fuel spill pit is completed and will be constructed while the incident trainer area is being designed. It will offer state-of-the-art training to Air Force and Los Angeles County firefighters.

Ivancic noted that while air emissions will be significantly reduced, some visible smoke is needed to simulate a realistic training environment. "You won't see any black smoke above Air Force Plant 42, but there will be a grayish cloud. This smoke will dissipate more quickly than the smoke from jet fuel," he said.

— Larine Barr, ASC Public Affairs

RABs

(Continued from page 3)

additional obstacles, such as frequent travel to Air Force plants and having to communicate with different time zones.

To improve communication between Air Force personnel and the public, ASC/EM established a toll-free number (800-982-7248), and has committed to frequent mailings to maintain effective working relationships with stakeholders. The organization also has a web site on the Internet (www.ascem.wpafb.af.mil) and uses a variety of electronic technologies to enhance long distance communication.

Andrea Attaway-Young, chief of the Public Affairs Environmental Division for ASC, said it takes a lot of energy to create the positive force needed to get RAB members focused on current cleanup issues, and in agreement on the same priorities. "We deal with a great spectrum of personality types and must be diplomatic, yet direct in our communications. Lack of communication can cause suspicion or mistrust, but discussing issues head-on provides the opportunity for people to feel that their concerns are being heard, and that the Air Force is trying to make a positive difference," explained Attaway-Young.

"One of the challenges of managing a RAB long distance is not being present in the local community on a daily basis."

—Dennis Scott

Comparing comments and suggestions voiced during RAB meetings indicate that Air Force, regulatory personnel and community members have similar goals and desires in mind. These goals primarily focus on cleaning up historical, contaminated sites at the Air Force plants in the quickest and most cost-effective way. With help from RAB members, the Air Force can identify which sites the public has more concerns about, and which sites they feel should be cleaned up first.

"The efforts of RAB members at all the Air Force plants across the country can be applauded. Each of these individuals has dedicated their valuable time to supporting the Air Force's cleanup program — from coast to coast."

— Judy Charles, ASC/EM Restoration

How you can get more information

There are several ways for citizens with an interest in Air Force environmental cleanup efforts and other activities to get more information.

Mailing Lists

We continually update our mailing lists for each Air Force plant to provide citizens with the most up-to-date information.

Internet

To access the ASC/EM Home Page, type **http://www.ascem.wpafb.af.mil** at the location line of your internet software package. To e-mail ASC Public Affairs personnel:

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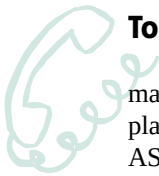

Toll-free Phone Number

To add, change, or delete a name from a mailing list, request information on specific plants or topics, or other information, call the ASC toll-free Public Affairs number at (800) 982-7248. Extensions include: Andrea Attaway-Young, ext. 301; Larine Barr, ext. 322; and Daniel Johnson, ext. 346.

Administrative Record/ Information Repository

The Air Force maintains an Administrative Record containing all documents on cleanup projects for each Air Force plant at Wright-Patterson Air Force Base, Ohio. The record is available to the public for review. The Air Force also maintains an information repository near each plant, which contains information pertinent to the cleanup effort, as well as related material.

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